

CLAIMS

What is claimed is:

- 5 1. A method for providing end-to-end QoS for applications running in multiple transport protocol environments which comprises:

 formulating a query message at a client machine, said query message containing a source IP address and a QoS profile requirement of a user application;

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 sending the query message to a server machine;

 decoding the query message at the server machine;

 15 determining availability of PVC connections and SVC connections at the server;

 formulating a response message at the server machine, said response message containing server information and the availability of the PVC connections and the SVC connections;

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 sending the response message to the client machine;

 decoding the response message at the client machine; and

 connecting the client machine to the server machine based upon the response message.

2. The method of claim 1, further comprising:

connecting the client machine to the server machine using the PVC connection when the
5 response message indicates that the PVC connection is available.

3. The method of claim 2, further comprising:

connecting the client machine to the server machine using the SVC connection when the
10 response message indicates that the SVC connection is available.

4. The method of claim 3, further comprising:

receiving additional response messages from the server;

extracting server information stored in the additional response messages; and

storing the server information in a connection database at the client machine;

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5. The method of claim 4 further comprising repeating the steps of claim 4 until a server
having the QoS profile has been identified.

6. The method of claim 5 further comprising connecting the client machine to the server having the desired QoS profile.

5 7. A method for establishing end-to-end QoS for a client machine which comprises:

querying a plurality of servers for a connection response;

10 receiving the connection response from at least one of the plurality of servers, the connection response comprising a QoS level, server information, and connection information;

15 extracting the QoS level, server information, and connection information from the connection response;

20 storing the QoS level, server information, and connection information in a connection database;

searching the connection database for a server having a desired QoS level;

25 repeating the steps of querying, receiving, extracting, storing, and searching until the server having the desired QoS level is identified.

8. The method of claim 7, further comprising:

retrieving the server information and the connection information from the connection database;

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selecting a desired server based upon the server information and the network information;

and

negotiating a connection between the client application and the desired server using a

10 PVC connection or an SVC connection between the client application and the desired server.

9. The method of claim 8, further comprising repeating the steps of retrieving, selecting, and negotiating when a new connection is requested by the client application.

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10. An apparatus for providing end-to-end QoS for a client application which comprises:

a QoS selector located at a client machine, the QoS selector gathering client application QoS requirements and formulating connection requests;

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a second QoS selector located at a server machine, the second QoS selector receiving the connection requests and formulating connection responses indicating PVC connection availability and SVC connection availability;

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means for storing server information at the client machine; and

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connection means located at the client machine, said connection means receiving the connection response and connecting the client application to the server machine based upon the connection response.

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11. The apparatus of claim 10, wherein the first QoS selector stores an IP address of the client machine in the connection request.

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12. The apparatus of claim 11, wherein the second QoS selector stores VPI/VCI connection pair values in the connection response when a PVC connection exists at the server machine.

13. The apparatus of claim 12, wherein the second QoS selector includes an ATM address of the server machine when an SVC connection exists at the server machine.

14. The apparatus of claim 13, wherein the connection means establishes a PVC connection between the client machine and the server machine when the VPI/VCI connection pair values are detected in the connection response.

15. The apparatus of claim 14, wherein the connection means establishes an SVC connection between the client machine and the server machine when the ATM address is detected in the connection response.

16. The apparatus of claim 15, wherein the storage means extracts ATM connection information, server mapping information, server QoS information, and server address information from the connection response.

17. The apparatus of claim 16, wherein the storage means stores the ATM connection information, server mapping information, server QoS information, and server address information in a connection database.